UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,345	11/12/2003	David Chimitt	TN313	6037

7590 07/11/2006

Unisys Corporation
Attn: Michael B. Atlass
Unisys Way, MS/E8-114
Blue Bell, PA 19424-0001

EXAMINER	
PARK, ILWOO	
ART UNIT	**PAPER NUMBER**
2182	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/706,345	CHIMITT ET AL.	
	Examiner	Art Unit	
	Ilwoo Park	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-9,11-16 and 18-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-9,11-16 and 18-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 7, 9, 11, 14, 18, and 23 are amended and claims 6, 10, and 17 are canceled in response to the last office action. Claims 1-5, 7-9, 11-16, and 18-25 are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> **A person shall be entitled to a patent unless –**
>
> **(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.**

3. Claims 1, 2, 4, 5, 7-9, 11-14, 16, and 18-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Venkatesh et al. [US 2003/0158836 A1].

As for claim 1, Venkatesh et al teach a method for processing input/output request packets (IRPs) directed to Data Volumes having a meta-data extent and at least one data extent [e.g., fig. 10], the method comprising the steps of:

initiating [e.g., paragraph 0061] an IRP;

evaluating [paragraphs 0061-0063] the IRP by a volume filter to determine a meta-data extent to handle the IRP;

directing ['forwarding the request through the Virtual File System to the meta file system manager' in paragraph 0062] the IRP by the volume filter to the appropriate meta-data extent; and

redirecting ['forwarding the request to the data mover that owns the file subsystem cell' in paragraph 0066] the IRP from the meta-data extent to at least one data extent ['data mover that owns the file subsystem cell' in paragraph 0066] associated with the meta-data extent.

4. As for claim 2, Venkatesh et al teach the IRP is initiated by an originator ['client' in paragraph 0061] of input/output (I/O).

5. As for claim 4, Venkatesh et al teach the meta-data extent is associated with a plurality of data extents [paragraph 0033].

6. As for claims 5, 11, and 24, Venkatesh et al teach the plurality of data extents are located on a plurality of physical disks [e.g., data storage 120-122 in fig. 8].

7. As for claim 7, Venkatesh et al teach creating additional IRPs by the volume filter, each additional IRP being derived from the initiated IRP and related to a single data extent [e.g., pointer of the object for accessing the object in paragraphs 0072, 0073, sending a file lock request using file system ID in figs. 10 and 13]

8. As for claims 8 and 13, Venkatesh et al teach the meta-data extent and at least one data extent are Basic Volumes and the method is implemented above said Basic Volumes [figs. 1-2; paragraph 0035].

9. As for claim 9, Venkatesh et al teach a method for storing data across at least one physical disk and presenting the data as a single virtual disk [paragraph 0035], comprising the steps of:

forwarding [e.g., paragraph 0061] a first input/output request packet (IRP) from an originator of I/O to a meta-data extent associated with at least one data extent of a Data Volume;

intercepting ['forwarding the request through the Virtual File System to the meta file system manager' in paragraph 0062] the first IRP by a volume filter associated with the mete-data extent;

creating [e.g., pointer of the object for accessing the object in paragraphs 0072, 0073, sending a file lock request using file system ID in figs. 10 and 13] an additional IRP by the volume filter for each data extent affected by the first IRP;

transmitting ['forwarding the request to the data mover that owns the file subsystem cell' in paragraph 0066] the additional IRPs to each data extent affected by the first IRP; and

allowing the additional IRPs to pass through a volume filter [Virtual File System of the data mover of owner] of each data extent affected by the first IRP.

10. As for claim 12, Venkatesh et al teach the data extents affected by the first IRP are located on separate physical disks [offline storage medium and online storage medium in paragraph 0077].

11. As for claim 14, Venkatesh et al teach a computer system for providing Data Volumes comprising:

a plurality of storage clients connected to at least one storage server across a computer network [fig. 8];

a plurality of magnetic disks wherein Data Volumes may be created [fig. 3] and virtually presented to said storage clients, each of Data Volumes having a meta-data extent and at least one data extent [fig. 2], the meta-data extent including a volume filter [virtual file system 143 in fig. 9] adapted to redirect ['forwarding the request to the data mover that owns the file subsystem cell' in paragraph 0066] input/output request packets (IRPs) received from one of the storage clients to the at least one data extent; and

central management facility [e.g., control station 123 in fig. 8] for controlling the at least one storage server.

12. As for claim 16, Venkatesh et al teach each storage client is presented with a virtual disk including at least one Date Volume having a meta-data extent and at least one data extent [paragraph 0035; fig. 1].

13. As for claim 18, Venkatesh et al teach the at least one data extent is a plurality of data extents and the IRPs are redirected to the data extents based on which data extents are affected by the IRPs [e.g., pointer of the object for accessing the object in paragraphs 0072, 0073, sending a file lock request using file system ID in figs. 10 and 13].

14. As for claim 19, Venkatesh et al teach each storage client is presented with a particular Date Volume having a meta-data extent and at least one data extent [paragraph 0035; fig. 1].

15. As for claim 20, Venkatesh et al teach the Date Volume is a simple volume [fig. 1].

16. As for claim 21, Venkatesh et al teach the Date Volume is a spanned volume [fig. 1].

17. As for claims 22 and 25, Venkatesh et al teach the Date Volume includes at least three Basic Volumes and a volume filter is logically disposed above said Basic volumes [figs. 2 and 9].

18. As for claim 23, Venkatesh et al teach a volume filter for redirecting input/output request packets (IRPs) sent from an input/output (I/O) originator, the volume filter comprising:

intercepting means [e.g., paragraph 0061] for intercepting IRPs sent to a meta-data extent associated with a Basic Volume;

evaluating means [paragraphs 0061, 0063] for evaluating IRPs to determine a meta-data extent to handle the IRP; and

redirecting means ['forwarding the request to the data mover that owns the file subsystem cell' in paragraph 0066] for redirecting the IRPs to at least one data extent associated with at least one other Basic Volume wherein a plurality of data extents are associated [fig. 8] with an equal number of Basic Volumes.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

20. Claims 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venkatesh et al. [US 2003/0158836 A1] in view of well known in the art.

As for claim 3, Venkatesh et al do not disclose the originator of I/O is a Small Computer Interface Target Mode Driver (SCSITMD); however, a Small Computer Interface Target Mode Driver (SCSITMD) for issuing an I/O request for file access is well known in the art. At the time the invention, one of ordinary skill in the art would have been motivated to include the Small Computer Interface Target Mode Driver (SCSITMD) for issuing an I/O request in order to increase applicability for adapting prevalent SCSI connection for accessing files.

As for claim 15, Venkatesh et al do not disclose the computer network is a fibre channel network; however, computer network including a fibre channel network for accessing files in a storage is well known in the art. At the time the invention, one of ordinary skill in the art would have been motivated to include a fibre channel network in order to increase applicability for adapting prevalent fibre channel network for accessing files.

Response to Arguments

21. Applicant's arguments with respect to claims 1-5, 7-9, 11-16, and 18-25 have been considered but are moot in view of the new ground(s) of rejection.

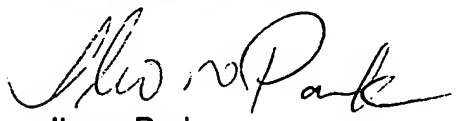
Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ilwoo Park whose telephone number is (571) 272-4155. The examiner can normally be reached on Monday through Friday from 9:00 AM to 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ILWOO PARK
PRIMARY EXAMINER



Ilwoo Park
July 5, 2006